MEMORANDUM

DATE: November 20, 2012

SUBJECT: RCRA CA Requirements Related to the Arkema East Site for the Upper Trenton Channel GLLA Project

FROM: Carolyn Bury, Project Manager
RCRA

TO: Amy Mucha
GLNPO

The RCRA program appreciated your October 25, 2012 email conveying your interest in improving coordination between our respective programs regarding the Great Lakes Legacy Act Upper Trenton Channel project ("UTC project"). Since the last time we met, (the October 12, 2012 RTC meeting), you revised the Feasibility Study (FS) to respond to some of the RCRA program's feedback. I have been reviewing the revised FS (*Interim Final Focused Feasibility Study Report*, October 2012) and it appears that this version of the document integrated more RCRA elements than did the first version (August 2012), so it seems that we're on the right track.

In the interest of enhanced coordination, and as requested, I have prepared the following a list of key elements which would need to be considered in the final Feasibility Study/UTC project to meet RCRA Corrective requirements for the Arkema site.

1) Arkema constituents of concern (COCs) should be incorporated into all phases of the UTC project and their relative importance should be on par with the "Area of Concern COCs." *Arkema COCs* are associated with the Arkema plant and have been measured or observed in the sediment adjacent to the Site. The Arkema COCs are: Halowax (a chlorinated hydrocarbon NAPL), Hallowax/NAPL-impacted sediment, polychlorinated naphthalenes (PCNs) and PAHs.[1]
2) Remedial Action Objectives (RAOs) should be developed for Arkema COCs.
3) In the absence of numeric RAOs for Arkema, all impacted sediment in front of the facility, from the shoreline into the navigation channel, should be removed.
4) Downstream sediments impacted by Arkema should be included in the project, their extent mapped, and dredged.
5) All *action* remedial alternatives should be designed to meet the Arkema RAOs (as action alternatives are generally designed to meet all project RAOs).

[1] It was noted that the Interim Final Feasibility Study (October 2012), Section 5.2 lists some of the RCRA COCs: PCNs, pH, and PAHs. However, the **chlorinated NAPL** from Arkema is not listed. Rather, "nonaqueous petroleum liquid" is listed which is not the same as the NAPL from Arkema (Halowax). Chlorinated hydrocarbons are generally of greater concern in the environment than are petroleum hydrocarbons.

6) If dredging would impair the integrity of any infrastructural installations such as sea walls and utilities, Arkema COCs should be addressed using the alternative approaches that would most reliably prevent subsequent contaminant migration and minimize receptor exposure in the short- and long-term.

7) Arkema COCs should be specifically addressed by the Remedial Design. The refinement sampling plan should be designed to map the downstream extent of the Arkema contamination.

   (There are insufficient downstream data to understand the extent of contamination from Arkema. The 2011 data gap sampling did not include PCNs, although it did include NAPL and PAHs. One concern is that PCNs were measured at elevated concentrations at the downstream BASF Riverview site by MDEQ/EPA in 2004. As Riverview is downstream of the Firestone site, it is probable that PCNs are also present in front of Firestone. If all the soft sediment in front of Firestone were to be removed, then it would not be critical to know how much of the contamination at Firestone is from Arkema. However, it appears that the FS still targets Firestone sediments for hotspot removal based on the "AOC COCs" which could leave a portion of the Arkema contamination unaddressed.)

8) For the Remedial Design refinement sampling event(s), RCRA anticipates the opportunity to review the sampling design and analytical results with GLNPO.

9) The confirmation sampling and analysis plan should include RCRA COCs on the analyte list, and the sampling and analysis methodologies should be acceptable to RCRA.

As stated, it appears that the Interim Final Focused Feasibility Study (received Nov 1, 2012) addresses some of the concerns that the program had with the August 2012 FS (received Oct 11, 2012). The program is continuing its review of the Interim Final FS and we look forward to discussing the FS and the rest of the project with you in the near future.